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U.S. Department of the Interior • Bureau of Mines

MINERAL INDUSTRY SURVEYS

810 7th Street, NW Washington, DC 20241

For Information Call:
Gordon T. Austin, (202) 501-9388
William Field (data) (202) 501-9514

Second Quarter, 1993

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MANUFACTURED ABRASIVES

The U.S. Bureau of Mines (USBM) collects data on manufactured abrasives from producers through non-mandatory surveys. Fused aluminum oxide production data for the second quarter was collected from four companies, representing seven plants in the United States and Canada. Silicon carbide production data was collected from four companies, representing five plants in the United States and Canada. Metallic abrasives information was collected from ten companies representing eleven U.S. plants--four producing cut wire shot, two producing iron shot and grit, and seven producing steel shot and grit. Most of the companies reported for the second quarter, estimates were made for unreported production.

FUSED ALUMINUM OXIDE

During the second-quarter of 1993 United States and Canadian production of regular-grade fused aluminum oxide was 36,879 tons[1] about the same as for the second quarter of 1992, according to the USBM. The production represented utilization of 67% of the rated industry capacity and was valued at $13.8 million, or about $375 per ton. Production of regular-grade fused aluminum oxide during the same period of 1992 was 36,957 tons valued at $14.7 million, or about $397 per ton.

Production of high-purity aluminum oxide during the second quarter of 1993 was 8,191 tons valued at $4.6 million, or about $562 per ton. Second-quarter production utilized about 82% of rated industry capacity. Production of high-purity aluminum oxide was 31% greater than for the same period in 1992 when production was 6,252 tons valued at $3.7 million or about $594 per ton.

Prepared in the Branch of Industrial Minerals and the Branch of Data Collection and Coordination, August 17, 1993.

[1]All quantity units are in metric tons unless otherwise noted.
[2]Import and export data are from Bureau of the Census, U.S. Department of Commerce. Values are Custom Values.
[3]Export data are from Bureau of Census. Values are F.a.s.
[4]Other shot and grit includes chilled iron, annealed iron, cut wire, and reclaimed shot and grit from primary producers.

Annual production calculated on the rate of production for the second quarter 1993 would be 147,516 tons of regular-grade valued at $55.3 million and 32,764 tons of high-purity fused aluminum oxide valued at $18.4 million. Production of fused aluminum oxide in 1992 was 142,545 tons of regular grade, valued at $56.3 million and 24,231 tons of high grade, value at $14.4 million.

Imports of crude fused aluminum oxide through May 1993 were 41,708 tons valued at $17.4 million[2] or about $418 per ton. Canada was the major supplier of crude accounting for 96% of the imports. Imports of refined and ground fused aluminum oxide were 8,875 tons valued at $11.8 million or about $1,324 per ton. The major suppliers of imported refined and ground material, in descending order, were Austria (31%), Canada (29%), China (12%), Germany (7%), and Brazil and Italy (5% each).

Exports of fused aluminum oxide through May 1993 were 5,392 tons. The exports were valued at $10.3 million[3] or about $1,911 per ton.

The United States National Defense Stockpile (NDS) goal for abrasive grain fused aluminum oxide is zero, and the inventory was about 46,169 tons as of December 31, 1992. The NDS goal for crude fused aluminum oxide is zero and inventory was 226,679 tons. During fiscal year (FY) 1993 NDS Annual Materials Plan called for the disposal of 13,608 tons of crude and 2,722 tons of abrasive grain. Fused crude and abrasive grain aluminum oxide are offered for sale the fourth Tuesday of each month. To date in FY 1993, 907 tons of crude sold for $250,000 and 74 tons of abrasive grain sold for $33,640.

SILICON CARBIDE

During the second quarter of 1993 United States and Canadian production of crude silicon carbide was 19,259 tons valued at $9.9 million or about $516 per ton. This was a 14% decrease compared with the 22,358 tons valued at $11.3 million during the second quarter of 1992. Annual production calculated from the second quarter rate of production would be 77,036 tons valued at $39.8 million.

Imports of crude silicon carbide through May 1993 were 41,085 tons valued at $16.4 million or about $400 per ton. Imports of refined and ground silicon carbide for the same period were 2,059 tons valued at $5.1 million or about $2,479 per ton. During this period China was the largest supplier of crude material furnishing 57% of the tonnage. In descending order, Norway (62%), Canada (13%), Germany (8%), Japan (5%), Mexico (4%), and Sweden (3%) were the largest suppliers of refined and ground silicon carbide.

Exports of crude silicon carbide for the same period were 94 tons valued at $82,934 or about $882 per ton. Exports of refined and ground silicon for the period were 6,724 tons valued at $5.9 million or approximately $877 per ton.

The NDS goal for crude silicon carbide is zero and the inventory as of December 31, 1992 was 37,400 tons. To date in FY 1993 the NDS has sold 4,250 tons of crude silicon for about $1.7 million or an average value of about $395 per ton. There are no additional sales planned for FY 1993.

The United States International Trade Commission (ITC) made an affirmative determination on August 2, 1993 in the preliminary antidumping investigation on imports of silicon carbide from the People's Republic of China (PRC). The affirmative determination means that the ITC found that there is a reasonable indication that a U.S. industry is materially injured or threatened with injury by imports of silicon carbide from the PRC. The ITC investigation was the result of an petition by the Ad Hoc Silicon Carbide Coalition. Information can be obtain from the ITC under Investigation No. 731-TA-651 (Preliminary).

METALLIC ABRASIVES

During the second quarter of 1993 the U.S. production of steel shot and grit was 50,114 tons, a slight decrease compared to the same period in 1992. The second-quarter production was valued at $20.3 million or about $406 per ton. Production during the same period in 1992 was 51,006 tons valued at $20.3 million, or about $399 per ton. Based upon second-quarter information, it is calculated that production for 1993 will be about 200,456 tons valued at$81.4 million. Production of steel shot and grit in 1992 was 202,325 tons valued at $81.3 million, or about $402 per ton.

Shipments of steel shot and grit for the reporting period were 50,764 tons valued at $21.1 million, or about $415 per ton. Shipments during the second quarter of 1992 were 52,548 tons valued at $22.0 million or about $418 per ton.

Second-quarter production of all other types of metallic shot and grit[4] was 4,247 tons valued at $2.5 million, or about $579 per ton. Production of all other types of shot and grit for the same period of 1992 was 3,465 tons valued at $2.0 millon, or about $565 per ton. Annual production of all other types of shot and grit, calculated from second-quarter production rates, would be 16,988 tons. Production of all other types of shot and grit in 1992 was 11,477 tons valued at $8.3 million or about $721 per ton.

Shipments of all other types of shot and grit were 5,155 tons valued at $2.7 million, or about $517 per ton. Shipments for the same quarter during 1992 were 3,870 tons valued at $2.2 million or about $568 per ton.

Imports of all types of metallic shot and grit through May 1993, were 9,916 tons valued at $6.0 million, or about $602 per ton. Canada was the largest supplier accounting for 64% of tonnage imported.

Exports of all types of metallic abrasive through May 1993, was 11,478 tons valued at $7.5 million, or about $657 per ton. Exports for 1992 were 15,155 tons valued at $6.5 million, or about $429 per ton.

TABLE 1
MANUFACTURED ABRASIVES
(Metric tons and thousand dollars)

SOURCE AND PRODUCT	1990		1991		1992		1993			
							First Quarter		Second Quarter	
	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
U. S. AND CANADIAN PRODUCTION										
CRUDE ALUMINUM OXIDE (Regular):										
REGULAR: ABRASIVE AND REFRACTORIES	164,096	64,687	138,440	52,783	142,545	56,284	31,579	11,600	36,879	13,848
HIGH PURITY	21,383	13,071	24,516	15,175	24,231	14,388	4,622	2,874	8,191	4,605
TOTAL [1]	185,479	77,758	162,956	67,958	166,777	70,672	36,201	14,474	45,070	18,453
CRUDE SILICON CARBIDE:										
ABRASIVE	54,339	27,912	42,380	21,921	44,673	23,954	9,224	4,826	9,685	5,571
METALLURGICAL	49,890	22,840	36,562	17,579	39,611	19,510	8,666	4,926	9,574	4,371
REFRACTORIES AND OTHER	1,022	584	W	W	W	W	W	W	W	W
TOTAL [1]	105,251	51,336	78,943	39,500	84,283	43,464	17,890	9,752	19,259	9,942
UNITED STATES: PRODUCTION										
STEEL SHOT AND GRIT	213,879	82,485	192,134	75,769	202,325	81,330	r53,666	r21,479	50,114	20,322
OTHER SHOT AND GRIT [2]	10,260	6,628	5,916	5,527	11,477	8,270	r4,967	r2,514	4,247	2,457
TOTAL [1]	224,139	89,112	198,049	81,296	213,802	89,601	r58,633	r23,993	55,361	22,779
: SHIPMENTS										
STEEL SHOT AND GRIT	209,095	86,568	201,170	82,344	205,623	85,700	r52,901	r21,850	50,764	21,077
OTHER SHOT AND GRIT [2]	10,485	7,781	11,503	5,833	12,089	8,725	r5,070	r2,654	5,155	2,666
TOTAL [1]	219,581	94,349	212,673	88,177	217,712	94,424	r57,972	r24,504	55,919	23,743

r Revised. W Withheld to avoid disclosing company proprietary data; this relatively small amount is included in the "Metallurgical" category.
[1] Data may not add to totals shown because of independent rounding.
[2] Includes chilled iron shot and grit, annealed shot and grit, cut wire shot, and reclaimed shot and grit from primary producers.

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